

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

AMENDED APPEAL BRIEF FOR THE APPELLANT

Ex parte Akira YAMAMOTO et al.

MOTORIZED ROLLER

Serial No. 10/809,934
Appeal No.: Not Yet Assigned
Group Art Unit: 3726

A check in the amount of Five Hundred Ten Dollars (\$510.00) was previously submitted in the Appeal Brief on December 7, 2007 to cover the official fee for this amended Appeal Brief. In the event that there may be any fees due with respect to the filing of this paper, please charge Deposit Account No. 50-2222.

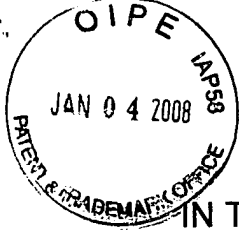
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Atty. Docket: 059558.00023

DDN/jkm:cqc

Encls: Amended Appeal Brief



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In re the Appellant:

Akira YAMAMOTO et al.

Appeal No.:

Serial Number: 10/809,934

Group Art Unit: 3726

Filed: March 26, 2004

Examiner: Afzali, Sarang

For: MOTORIZED ROLLER

BRIEF ON APPEAL

January 4, 2008

I. INTRODUCTION

This is an appeal from the final rejection set forth in an Official Action dated June 8, 2007, finally rejecting claims 4 and 5, and objecting to claim 6. Claims 1 through 3 are cancelled and claims 7 and 8 have been withdrawn from consideration. A Request for Reconsideration was timely filed on September 10, 2007. An Advisory Action was issued on September 18, 2007, indicating that the request for reconsideration was considered, but did not place the application in condition for allowance. A Notice of Appeal was timely filed on October 5, 2007, with a Petition for Extension of Time. An Appeal Brief was timely filed, but the Notification of Non-Compliant Appeal Brief under 37 C.F.R. §47.37 requested changes to the Appeal Brief. This Amended Appeal Brief addresses the concerns raised in the Notification of Non-Compliant Appeal Brief and is being timely filed. Because the rejections of claims 4 and 5 are in error, it is respectfully requested that the rejections be reversed.

II. REAL PARTY IN INTEREST

The real parties in interest in this application are SUMITOMO HEAVY INDUSTRIES, LTD. of Tokyo, Japan by virtue of an assignment by the inventors on April 20, 2004. The assignment was recorded at Reel 015664, Frame 0936, on August 6, 2004.

III. STATEMENT OF RELATED APPEALS AND INTERFERENCES

There are no known related applications, patents, judicial proceedings, appeals, and/or interferences that are related to, will directly effect, be directly effected by, or have a bearing on the Board's decision in this appeal.

IV. STATUS OF CLAIMS

Pending claims 4 and 5 are the subject of this appeal. Claim 4 was rejected under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 4,082,180 of Chung (the “Chung” reference). In the alternative, claim 4 was further rejected under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 5,088,596 of Agnoff (the “Agnoff” reference). Claims 4 and 5 were also rejected under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 6,447,336 Fannin et al. (the “Fannin” reference).

The pending claim 6 was objected to for depending from rejected claim 5 but would be allowable if rewritten in independent format.

Claims 1 through 3 were previously cancelled. Remaining claims 7 and 8 were previously withdrawn in response to a Restriction Requirement.

V. STATUS OF AMENDMENTS

Claims 4 and 5 stand as they were previously presented prior to the Office Action. No amendments have been submitted or entered since that time. Thus, claims 4 and 5 are pending and their respective rejections are appealed. The Response, filed September 10, 2007, was entered but did not contain any amendments.

VI. SUMMARY OF THE INVENTION

Claim 4 recites a motorized roller. *See, for example*, the motorized roller 100 disclosed in Figure 1, and paragraphs [0031]-[0032] (page 8, lines 1-11) and the motorized roller 200 disclosed in Figures 4A-4B, and paragraph [0047] of corresponding U.S. Published. Patent Application No. 2005/0119098 (page 14, line 21-23). The motorized roller includes a roller body. *See, for example*, the cylindrical roller body 112 disclosed in Figure 1 and paragraph [0031]-[0032] (page 8, lines 9-16) or the cylindrical roller body 212 disclosed in Figures 4A-4B and paragraphs [0047] and [0048] (page 14, line 14 through page 15, line 14). Within the roller body, the motorized roller further includes a motor, a reducer that reduces the rotation of the motor, and a rotor connected with the reducer and the roller body to transmit power of the reducer to the roller body. *See, for example*, the motor 130, the reducer 140, and the base rotor 146 housed inside the roller body 112 and disclosed in Figure 1 and paragraphs [0031], [0032], [0037], and [0038] (page 8, lines 8-14, page 10, line 6- page 11, line 15) and the base rotor 246 disclosed in Figures 4A-4B and paragraph [0048] (page 14, line 14). The roller body includes a first roller body and a second roller body. *See, for example*, first roller body 112x and the second roller body 112y disclosed in Figures 1 and 3A-3B and paragraph [0045] (page 13, lines 21-25) or the first roller body 212x and the second roller body 212y disclosed in Figures 4A-4B and paragraph [0048] (page 15, lines 6-14).

In particular, an axial end section of a second roller body side of the first roller body and an axial end section of a first roller body side of the second roller body are connected at a power transmission section between the rotor and the roller body. *See, for example*, the connection of the first and second roller bodies 112x and 112y to form the power transmission section X, as disclosed in Figures 1 and 3A-3B and paragraphs [0041] and [0045] (page 12, lines 8-13, page 13, line 21- page 14, line 4). *See, alternatively*, the connection of the first and second roller bodies 212x and 212y at the power transmission section Y, as disclosed in Figures 4A-4B and paragraphs [0047] and [0049]-[0050] (page 15, line 1-4 and page 15, line 15-page 16, line 5).

Claim 5 depends from claim 4 and recites that inner peripheral surfaces of the first roller body and the second roller body are connected to an outer peripheral surface of the rotor. *See, for example*, the connection of the inner peripheral end surfaces 112x2 and 112y2, respectively, of the first and second roller bodies 112x and 112y to the outer peripheral surface 146a of the base rotor 146, as disclosed in Figures 1 and 3A-3B and paragraphs [0041], [0042], [0045] and [0046] (Page 12, lines 8-22, and page 14, line 1-20). *See, alternatively*, the outer peripheral surfaces 212x2 and 212y2 of the first and second roller bodies 212x and 212y that connect to the outer peripheral surface 246a of the rotor 246, as disclosed in Figures 4A-4B and paragraphs [0049] - [0051] (page 15, line 17- page 16, line 12).

Although 37 C.F.R. §41.37(c)(1)(v) indicates the use of page and line

numbers, it is respectfully submitted that the above provided paragraphs numbers are substantially equivalent thereto.

VII. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed on appeal are as follows: The rejection of claim 4 under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 4,082,180 of Chung (the “Chung” reference); the rejection of claim 4 under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 5,088,596 of Agnoff (the “Agnoff” reference); and the rejection of claims 4 and 5 under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 6,447,336 Fannin et al. (the “Fannin” reference).

VIII. APPELLANT'S ARGUMENTS

Appellants respectfully submit that each of the pending claims 4 and 5 recites subject matter that is neither disclosed nor suggested by the cited art. Each of the claims is being argued separately, and thus each of the claims stands or falls alone.

A. The rejection of claim 4 under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 4,082,180 of Chung (the "Chung" reference).

The Office Action rejected claim 4 under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 4,082,180 of Chung (the "Chung" reference). The Office Action took the position that Chung discloses all of the features of independent claim 4. This rejection is in error and should be reversed because Chung fails to disclose or suggest all of the elements of claim 4.

Specifically, the Action alleged the following:

Chung teaches a motorized roller comprising: a roller body 20, 30 of the motorized roller; a motor 46 disposed inside the roller body 20, 30; a reducer 40 which is disposed inside the roller body 20, 30, and reduces the rotation of the motor 46; and a rotor 112 which is disposed inside the roller body 20, 30, and connected with the reducer 40 and the roller body 20, 30 to transmit power of the reducer 40 to the roller body 20, 30; wherein the roller body 20, 30 comprises a first roller body 20 and a second roller body 30, and an axial end section of a second roller body side of the first roller body 20 and an axial end section of a first roller body side of the second roller body are connected at a power transmission section between the rotor and the roller body.

As an initial observation, the Office Action incorrectly identified that element 20 teaches the recited first roller body. Referring to Figure 3 of Chung, element 20 is a conveyer belt and not part of the roller and certainly not part of the roller body.

As used within this field of art and in the present application, the “roller body” refers to an cylindrical structure used to engage a belt or otherwise apply a rotation force.

Furthermore, interpreting the belt as part of the roller body is contrary to the plain and ordinary meaning of a roller. See for example, Merriam Webster Online Dictionary at <http://www.merriamwebster.com/dictionary/roller> which defines a roller as “a.) a revolving cylinder over or on which something is moved or which is used to press, shape, spread, or smooth something or b.) a cylinder or rod on which something (as a shade) is rolled up.”

Moreover, the conveyer belt 20 rides on and is therefore not “connected” to cylindrical rim 30, as recited in claim 4. Furthermore, as depicted in FIGS. 1 through 3, elements 20 and 30 in Chung are layered and do not meet at axial ends, as recited in claim 4. For these and other reasons, Chung does not teach or suggest the limitation that “an axial end section of a second roller body side of the first roller body and an axial end section of a first roller body side of the second roller body are connected.”

For similar reasons, while it may be argued that rotational force originating from shaft 112 is eventually applied to an interior surface of the rim 30 (not admitted), the elements 20 and 30 cited in the Office Action are not connected at

a “power transmission section between the rotor and the roller body” as recited in claim 4. As used in the present specification, the power transmission section refers to the location at which force from the motor is eventually applied to the roller body. Referring to Chung at Figure 2, rotational force from the motor 46 is applied to a gear reducer 40, and eventually to the cylindrical rim 30 via an end disc 32. Therefore, the appropriate “power transmission section,” as defined in the present application would be the intersection of the cylindrical rim 30 and the end disc 32. Thus, Applicants note that even if it could be argued that rim 30 and the belt 20 could be considered “connected” (not admitted), this connection does not occur at the “power transmission section.”

Furthermore, Applicants submit that element 112 identified in the Office Action is not a “rotor” as recited in claim 4. In particular, the specification of Chung identifies element 112 as a shaft connected to the gear reducer 42. Furthermore, this shaft 112 is not located near or otherwise connected to supposed roller body 20, 30, as recited in claim 4.

Applicants further note that the motorized roller recited in claim 4 provides significant benefits that cannot be achieved through the structure disclosed in Chung. In particular, as described in the present application at paragraph [0015] and [0046], conventional roller assemblies required high precision processing to accurately transmit the power transmission from the motor to the rotor body. These problems are particularly present when the force applied by the motor

increases, for example, to handle heavier packages on a belt driven by the rotor. Chung would not address this problem and would continue to require high precision processing between the cylindrical rim 30, the shaft 112, and the end disc 32.

For at least these reasons, Applicants urge that Chung does not anticipate claim 4, and that this rejection should be withdrawn. Claim 5 should be allowable as depending from allowable claim 4. Moreover, the Office Action does not apply Chung to claim 5. Thus, even if claim 4 remains rejected as anticipated by Chung, claim 5 should be separately allowable over Chung.

B. The rejection of claim 4 is under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 5,088,596 of Agnoff (the “Agnoff” reference)

The Office Action rejected claim 4 alternatively under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 5,088,596 of Agnoff (the “Agnoff” reference). The Office Action took the position that Agnoff discloses all of the features of independent claim 4. This rejection is in error and should be reversed because Agnoff fails to disclose or suggest all of the elements of claim 4.

Specifically, the Action alleged the following:

Agnoff teaches (Figure 1) a motor 70, reducer 120, a rotor 82, wherein the roller body comprises a first roller body 16 and a second roller body 20 and an axial end section of a second roller body side of the

first roller body 16 and an axial end section of a first roller body side of the second roller body 20 are connected (at 20a) at a power transmission section between the rotor and the roller body.

Contrary to the statements contained in the above-reproduced portion of Section 5 of the Office Action, Applicants note that the identified rotor 82 is a portion of the motor 70 and does not connect to either a gear reducer or a motor as recited in claim 4. Instead, as depicted in Figure 1 of Agnoff, a motor 70 connects to a reducer 120 to provide rotational force to a drive member 152 adapted to transfer this force to a roller tube 16.

Continuing with Figure 1 of Agnoff, an end cap 20 is inserted into an end of the roller tube 16, entirely unconnected to the motor 70, except by the roller tube 16. Continuing with Figure 1, the end cap 20 is inserted substantially within the roller tube 16. Consequently, elements 16 and 20, referenced in the Action, respectively, as the first and second roller bodies, are layered and do not meet at axial ends as recited in claim 4. Specifically, Agnoff does not teach the limitation that "an axial end section of a second roller body side of the first roller body and an axial end section of a first roller body side of the second roller body are connected."

Applicants further note that the end cap 20, identified in the action as the second roller body part, is positioned away from and does not contact either the rotor 82 or the clutch 170 that transfers the rotational force to the drive member. In this way, the roller tube 16 and the end cap 20 are not connected at "a power transmission section" as recited in claim 4.

Applicants further note that the end cap 20 cannot be considered part of the roller body. As defined above in the discussion of Chung, a roller body is cylindrical structure that functions to provide a rotational force. As depicted in Figures 1-2 of Agnoff, the end cap 20 tapers away from the roller tube 16 not form cylinder and to avoid contacting a belt or otherwise applying the rotation force.

Applicants further note that the motorized roller recited in claim 4 provides significant benefits that cannot be achieved through the structure disclosed in Agnoff. In particular, Agnoff is similar in structure to the conventional roller 10 described in background section of the present application at paragraphs [0004]-[0015] and depicted in FIG. 7. In particular, both the described conventional roller assemblies and the roller assembly in Agnoff (having a drive member 152 connected to the middle of a roller body) require high precision processing to accurately transmit the power transmission from the motor to the rotor body. Thus, Agnoff would not address this problem and would continue to require high precision processing.

For at least these reasons, Agnoff does not anticipate claim 4 and that this rejection should be withdrawn. Claim 5 should be allowable as depending from allowable claim 4. Moreover, the Office Action does not apply Agnoff to claim 5. As a consequence, even if claim 4 remains rejected in view of Agnoff, claim 5 should be separately allowable.

C. The rejection of claims 4 and 5 under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 6,447,336 Fannin et al. (the “Fannin” reference).

The Action further rejected claims 4 and 5 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,447,336 of Fannin et al. (the “Fannin” reference).

The Office Action took the position that Fannin discloses all of the features of claims 4 and 5. This rejection is in error and should be reversed because Fannin fails to disclose or suggest all of the elements of claims 4 and 5.

1. Claim 4

Specifically, the Office Action alleged the following:

Fannin et al. teach a motor 82, reducer 84, a rotor 89, wherein the roller body comprises a first roller body 104 and a second roller body 88 and an axial end section of a second roller body side of the first roller body 104 and an axial end section of a first roller body side of the second roller body 88 are connected at a power transmission section between the rotor and the roller body.

As depicted in Figure 4 of Fannin, an outer plate 104 is inserted substantially within an outer tube 88. Consequently, elements 88 and 104, referenced in the Action, respectively, as the first and second roller bodies, do not meet at axial ends thereof as recited in claim 4. Specifically, Fannin also does not teach the limitation that “an axial end section of a second roller body side of the first roller body and an axial end section of a first roller body side of the second roller body are connected.”

Instead, an outer radial surface of the outer plate 104 contacts an interior radial surface of the outer tube 88.

Likewise, the identified “roller” of Fannin, the outer ring 89, applies radial force to an interior surface of the outer tube 88, and the outer tube 88 and the outer plate 104 connect at a separate location away from the application of force from the motor. Therefore, Fannin does not teach the recitation from claim 4 that the first and second roller bodies connect at a power transmission section between the rotor and the roller body.

Applicants further note that the outer plate 104 is not part of the roller body. As described above in the discussion of Chung and Agnoff, it is well-defined in the present application, in this field of technology, and within the ordinary meaning that a roller body is a cylindrical structure for applying rotational force, and does not include end portions. *See, for example*, the present application at paragraphs [0007] and [0033]-[0034], where the Applicants deliberately differentiate a roller body 12, 112 from roller covers 12a-12b, 112a-112b.

For at least these reasons, Fannin does not anticipate or suggest claim 4 and that this rejection should be withdrawn. Furthermore, claim 5 should be allowable on similar grounds as depending from allowable claim 4.

2. Claim 5

Moreover, Fannin also does not recite the limitations of claim 5, which is separately patentable over Fannin. In particular, claim 5 recites that the inner peripheral surfaces of the first roller body and the second roller body are connected to an outer peripheral surface of the rotor. As explained above, the Office Action identifies the outer tube 88 as the first roller body, the outer plate 104 as the second roller body, and the outer ring 89 as the rotor. Referring to Figure 4 of Fannin, it can be seen that the outer tube 88 connects to an annular surface of the outer plate 89, and the outer plate 104 connects to a different axial surface of the outer plate 89. In this way, elements 88 and 104 do not connect to an outer peripheral surface of element 89, which is identified in the Action as the rotor. Because Fannin does not provide every recitation of claim 5, this rejection is improper and should be withdrawn.

IX. CONCLUSION

For all of the above noted reasons, it is strongly contended that certain clear differences exist between the present invention as claimed in claims 4 and 5 and the cited references relied upon by the Examiner. It is further contended that these differences are more than sufficient that the present invention would have been novel and non-obvious to a person having ordinary skill in the art at the time the invention was made, although in any event, no assertion of obviousness has been presented.

This final rejection being in error, therefore, it is respectfully requested that this honorable Board of Patent Appeals and Interferences reverse the Examiner's decision in this case and indicate the allowability of application claims 4 and 5.

In the event that this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees which may be due with respect to this paper may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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Encls: Appendix 1 - Claims on Appeal
Appendix 2 - Evidence
Appendix 3 - Related Proceedings

APPENDIX 1

CLAIMS ON APPEAL

4. (Previously Presented) A motorized roller comprising:

a roller body of the motorized roller;

a motor disposed inside the roller body;

a reducer which is disposed inside the roller body, and reduces the rotation of the motor; and

a rotor which is disposed inside the roller body, and connected with the reducer and the roller body to transmit power of the reducer to the roller body, wherein

the roller body comprises a first roller body and a second roller body, and

an axial end section of a second roller body side of the first roller body and an axial end section of a first roller body side of the second roller body are connected at a power transmission section between the rotor and the roller body.

5. (Previously Presented) The motorized roller according to claim 4, wherein

inner peripheral surfaces of the first roller body and the second roller body are connected to an outer peripheral surface of the rotor.

APPENDIX 2

EVIDENCE APPENDIX

No evidence under section 37 C.F.R. 1.130, 1.131, or 1.132 has been entered or will be relied upon by Appellants in this appeal.

APPENDIX 3

RELATED PROCEEDINGS APPENDIX

No decisions of the Board or of any court have been identified under 37 C.F.R. §41.37(c)(1)(ii).